



Educational Topic

Mathematician

Related Job Titles:

Computer scientist, computer programmer

Job Description:

There are two types of mathematicians: theoretical and applied. Theoretical mathematicians come up with new mathematical rules and processes using the latest technology. Applied mathematicians use math rules and processes to solve scientific, **engineering** and business problems. These problems might include studying and designing computer models that help to create faster and higher **aerospace** vehicles and systems. Mathematicians usually work in an office and spend a lot of time on the computer.

Interests / Abilities:

- Do you enjoy working with math and technology?
- Are you good at math?
- Are you good at reasoning and logic?
- Do you like to solve problems?
- Do you work well with a team?
- Do you keep working at a problem until you find a solution?

Suggested School Subjects / Courses:

- Math (**algebra**, **geometry**, statistics, **calculus**)
- Computer science (programming)
- **Engineering**
- Science

Education / Training Needed:

The minimum education required for this position is a **bachelor's degree** in mathematics from an accredited **college** or **university**. To do research, a **Ph.D.** is highly desired for this position.

Areas of expertise:

- *Modeling*: make simulations to study and improve aerospace craft and systems
- *Data analysis*: study aerospace problems and come up with the quickest, easiest method of modeling and solving them
- *Statistician*: design experiments, gather data, decide what the data means and make predictions

Additional Resources:

- [Careers in Aviation/Aerodynamics](http://wings.ucdavis.edu/Careers/index.html)
<http://wings.ucdavis.edu/Careers/index.html>
- Order NASA career videos such as "Journey into Cyberspace," "Winning: Aerospace the Next Decade" or "Where Dreams Come True" from NASA CORE
<http://core.nasa.gov>
- American Mathematical Society
<http://www.ams.org>
- Mathematical Association of America
1529 18th St. NW, Washington D.C. 20036
- Society for Industrial and Applied Mathematics,
3600 University City Science Center,
Philadelphia, PA 19104-2688
- Student Educational Employment Programs
http://nasajobs.nasa.gov/stud_opps/employment/index.htm
- NASA Jobs
<http://nasajobs.nasa.gov/>
- NASA Summer High School Apprenticeship Research Program (SHARP)
<http://www.mtsibase.com/sharp/>

What can I do right now?

- Join a math or computer club.
- Take as many math and computer classes as you can.
- Visit [Astro-Venture](http://astroventure.arc.nasa.gov) regularly to participate in chats and activities.
<http://astroventure.arc.nasa.gov>
- Call the American Association of Science and Technology Centers for information on science museums in your area that you might visit.
(202) 783-7200
- Participate in science fair projects.

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- Please take a moment to evaluate this product at:
 - http://ehb2.gsfc.nasa.gov/edcats/educational_topic
 - Your evaluation and suggestions are vital to continually improving NASA educational materials.
 - Thank you.
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<http://quest.nasa.gov/people/index.html>

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